

DESCRIPTION OF ONE NEW SPECIES OF THE GENUS *HYDRACHNA* MÜLLER (ACARI, HYDRACHNELLAE, HYDRACHNIDAE) FROM JIAMUSI, CHINA

ZHANG Li, GUO Jian-Jun*, JIN Dao-Chao

Institute of Entomology, the Provincial Key Laboratory for Agricultural Pest Management of Mountainous Region, Guizhou University, Guiyang 550025, China

Abstract One new species of the genus *Hydrachna* Müller, 1776, *H. neoungulata* sp. nov., is described and illustrated.

Key words Hydrachnellae, *Hydrachna*, new species, China.

1 Introduction

Hydrachna Müller is widely distributed in the world, which includes six subgenera *Anohydrachna* Thor, *Rhabdohydrachna* Viets, *Diplohydrachna* Thor, *Hydrachna* Müller, *Scutohydrachna* Viets and *Bargena* Koenike (Cook, 1974). In his world catalogue publication of water mites, Viets (1987) proposed the synonymization of most former subgenera with the uniquely accepted genus *Hydrachna*. Some contemporary acarologists such as Davids *et al.* (2005) are inclined to agree with Viets' concept. Previously 14 species have been reported from China (Jin, 1997; 2010). A new species from Heilongjiang Province is described here and the holotype is deposited in the Institute of Entomology, Guizhou University, Guiyang, Guizhou, China (GUGC).

2 Material and Methods

Water mites were collected by hand netting, sorted in the field from the living material, preserved in Koenike's fluid. The specimen was dissected in gelatin with minute pins: palps were separated from the infracapitulum firstly and then legs from body one by one, and mounted with gelatin after examining. Measurements in the text are given in μm and the most abbreviations used follow Jin (1997) and Goldschmidt (2007).

Abbreviation. Ep I – Ep IV: epimeron I – IV. D1 – D4: dorsoglandularia 1 – 4. I-L-1 – 6, etc: first leg segments 1 – 6, etc. IV-L-1 – 6, etc: fourth leg segments 1 – 6, etc. O1, O2: ocularia 1 – 2. P-I – P-V: palp segment 1 – 5.

3 Results

Superfamily Hydrachnoidea Leach, 1815

Family Hydrachnidae Leach, 1815

Genus *Hydrachna* Müller, 1776

Hydrachna Müller, 1776

Type species: *Hydrachna cruenta* Müller, 1776.

Diagnosis sensu Cook, 1974. pp. 33 – 37

***Hydrachna neoungulata* sp. nov.**

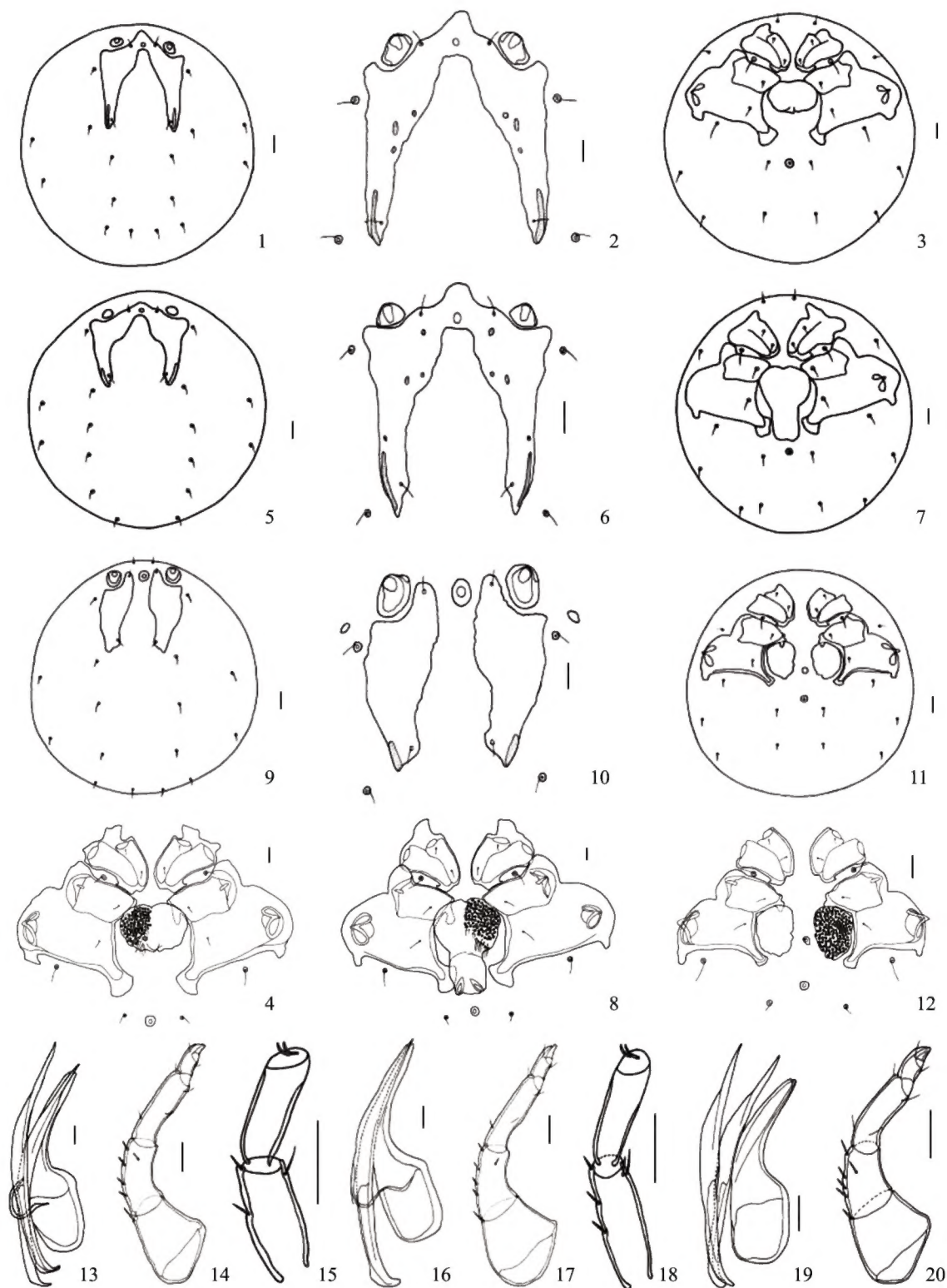
Male ($n = 2$). Body almost spherical, 2 250 (1 950 – 2 250) in length and 2 175 (1 867 – 2 175) in width; distance between anterior end of Ep I and posterior end of Ep IV 1 175 (960 – 1 175); integument papillate; dorsum with a single anterior plate, which 1 050 (890 – 1 050) in length, 850 (755 – 850) in width, bearing the median eye, O1 and O2; O1 and median eye at the same level, O2 anterior to D1, lateral eyes partially surrounded by this plate; the structure and chaetotaxy of dorsal plate as shown in Figs 1 – 2. Figs 3 – 4 illustrating the structure and chaetotaxy of the coxae and genital field, which 330 (270 – 330) in length and 510 (375 – 510) in width, and heart-like in shape, genital acetabula numerous (210 – 245). Dorsal lengths of palp segments: P-I 215 (185 – 215), P-II 245 (215 – 245), P-III 305 (260 – 305), P-IV 130 (110 – 130) (including distal projection), P-V 75 (60 – 75), the structure and chaetotaxy of the palp as shown in Fig. 14. Dorsal lengths of distal segments of leg I: I-L-3, 160 (145 – 160); I-L-4, 205 (175 – 205); I-L-5, 253 (230 – 253); I-L-6, 230 (225 – 230); leg IV: IV-L-3, 330 (290 – 330); IV-L-4, 620 (500 – 620); IV-L-5, 640 (510 – 640); IV-L-6, 370 (315 – 370). Fig. 15 illustrating the structure and chaetotaxy of I-L-5 – 6. Chelicera 1 225 (1 075 – 1 225) in length, infracapitulum 940 (810 – 940) in length, and the structure of chelicera and infracapitulum as shown in Fig. 13.

Female ($n = 2$). Body 2 155 (1 875 – 2 155) in length and 2 115 (1 832 – 2 115) in width; distance between anterior end of Ep I and posterior end of Ep IV 1 145 (985 – 1 145); Figs 5 – 6 illustrating the structure and chaetotaxy of dorsal plate, which 725

* Corresponding author, E-mail: Agr.jjguo@gzu.edu.cn

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Figs 1–20. *Hydrachna neoungulata* sp. nov. 1–4, 13–15. Male. 5–8, 16–18. Female. 9–12, 19–20. Nymph. 1–12. Idiosoma. 13, 16, 19. Infracapitulum and chelicerae. 14, 17, 20. Palp. 15, 18. I-L-5-6. 1–2, 5–6, 9–10. Dorsal view. 3–4, 7–8, 11–12. Ventral view. Scale bars = 100 μ m.

(655–725) in length, 805 (783–805) in width. Figs 7–8 illustrating the structure and chaetotaxy of the coxae and genital field, genital field 690 (645–690) in length and 440 (413–440) in width, heart-like in shape, genital acetabula numerous (430–

460). Dorsal lengths of palp segments: P-I 175 (147–175), P-II 235 (205–235), P-III 275 (244–275), P-IV 115 (96–115) (including distal projection), P-V 55 (41–55); Fig. 17 illustrating the structure and chaetotaxy of the palp; dorsal lengths

of distal segments of leg I: I-L-3, 150 (137 – 150); I-L-4, 195 (180 – 195); I-L-5, 240 (225 – 240); I-L-6, 190 (175 – 190); leg IV: IV-L-3, 295 (273 – 295); IV-L-4, 550 (513 – 550); IV-L-5, 530 (503 – 530); IV-L-6, 325 (312 – 325). Fig. 18 illustrating the structure and chaetotaxy of I-L-5 – 6. Chelicera 1 075 (985 – 1 075) in length, infracapitulum 860 (845 – 860) in length, and the structure of chelicera and infracapitulum as shown in Fig. 16.

Nymph ($n = 3$). Body almost spherical, 1 425 (1 215 – 1 425) in length and 1 275 (1 200 – 1 275) in width; distance between anterior end of Ep I and posterior end of Ep IV 605 (605 – 690); integument papillate; dorsum with a pair of plates, which 470 (250 – 470) in length, 200 (160 – 200) in width, bearing O1 and O2, while the median eye free, O1 and median eye at the same level, O2 anterior to D1, lateral eyes partially surrounded by the plates, the structure and chaetotaxy of dorsal plate as shown in Figs 9 – 10. Figs 11 – 12 illustrating the structure and chaetotaxy of the coxae and genital field, each of genital field 225 (225 – 245) in length and 150 (150 – 185) in width; genital field heart-like in shape, genital acetabula numerous (270 – 290); dorsal lengths of palp segments: P-I 125 (105 – 125), P-II 135 (130 – 135), P-III 180 (165 – 180), P-IV 80 (75 – 80) (including distal projection), P-V 42 (37 – 42); Fig. 20 illustrating the structure and chaetotaxy of the palp; dorsal lengths of distal segments of leg I: I-L-3, 90 (90 – 95); I-L-4, 115 (115 – 130); I-L-5, 150 (145 – 150); I-L-6, 160 (150 – 160); dorsal lengths of distal segments of leg IV: IV-L-3, 175 (169 – 175); IV-L-4, 335 (330 – 335); IV-L-5, 350 (350 – 360); IV-L-6, 255 (250 – 255); Fig. 19 illustrating the structure and chaetotaxy of chelicera and

infracapitulum, chelicera 660 (625 – 660) in length, infracapitulum 520 (480 – 520) in length.

Holotype ♂, a swamp at Jiamusi City (46°45'N, 130°21'E; alt. 103 m), Heilongjiang Province, 17 Aug. 1996, by JIN Dao-Chao. Paratypes: 1 ♂, 2 ♀♀, 3 nymphs, same data as holotype.

Etymology. The species is named after *H. unguolata*, because the new species is similar to *H. unguolata*.

Remarks. The new species is close to *H. unguolata*, but differs from the latter by the following characters: O1 and median eye at the same level, the protuberance of Ep II adjacent to Ep III, of Ep III is obviously well-developed, of Ep IV is wide and strong; genital field of male is oblate in shape and not extend to extremities anterior of Ep IV.

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REFERENCES

- Cook, D. R. 1974. Water Mite Genera and Subgenera. *Memoirs of the American Entomological Institute America*. 1 – 860.
- Dvids, K. *et al.* 2005. On the taxonomy of water mites (Acari: Hydrachnidia) describes from the Palaearctic, part 1: Hydrachnidae, Limnochardidae and Eylaidae. *Zootaxa*, 1 061: 36 – 64.
- Goldschmidt, T. 2007. Studies on Latin American water mites of the genus *Torrenticola* Piersig, 1896 (Torrenticolidae, Hydrachnidia, Acari). *Zoological Journal of the Linnean Society*, 150 (3): 443 – 678.
- Jin, D-C 1997. Hydrachnellae-Morphology, Systematics, a Primary Study of Chinese Fauna. Guizhou Science and Technique Publish House, Guiyang. 1 – 356.
- Jin, D-C *et al.* 2010. A review of progress in taxonomy of water mites from China (Acari: Hydrachnidia). *Zoosymposia*, 4: 106 – 119.
- Viets, K. O. 1987. Die Milben des Süßwassers (Hydrachnellae und Halacaridae [part.], Acari). II: Katalog. *Sonderbände des Naturwissenschaftlichen Vereins Hamburg*, 8: 1 – 1 012.

中国佳木斯水螨属一新种描述 (蜱螨亚纲, 水螨科)

张 笠 郭建军* 金道超

贵州大学昆虫研究所, 贵州山地农业病虫害重点实验室 贵阳 550025

摘要 报道水螨属 1 新种, 新蹄突双水螨 *Hydrachna neoungulata* sp. nov.。新种主要鉴别特征为背板和生殖域, O1 与中眼位于同一水平线上, Ep II 中突靠近 Ep III, Ep III 中突

关键词 水螨, 水螨属, 新种, 中国。

中图分类号 Q959.226

发达, Ep IV 突起宽大, 雄螨生殖域扁圆且不达 Ep IV 中后突下缘。

* 通讯作者, E-mail: Agr.jjguo@gzu.edu.cn